

# **The role of Interleukins in the immunopathogenesis of cancer**

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Cancer is a hyperproliferative disorder that involves morphological cellular transformation, dysregulation of apoptosis, uncontrolled cellular proliferation, invasion, angiogenesis and metastasis. The mixture of cytokines that is produced in the cancer microenvironment has an important role in cancer pathogenesis. Cytokines that are released in response to infection, inflammation and immunity can function to inhibit cancer development and progression. Alternatively, cancer cells can respond to host-derived cytokines that promote growth, attenuate apoptosis and facilitate invasion and metastasis.

This review will summarize the interactions among cancerous and immune cell types, as well as the key cytokine signals that are required for tumors to survive immunoediting in a dormant state or to grow and spread by escaping it. Additionally, it will present examples of how probing secreted cell-cell signal networks in the tumor microenvironment (TME) with cytokine screens have contributed to our current understanding of these processes and discuss the implications of this understanding to antitumor therapies.